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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,549	06/23/2003	Kenneth L. Levy	P0837	2418

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EXAMINER	
NUNEZ, JORDANY	
ART UNIT	PAPER NUMBER
2171	
MAIL DATE	DELIVERY MODE
11/08/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/602,549	LEVY, KENNETH L.	
	Examiner	Art Unit	
	JORDANY NUNEZ	2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,27,29,30,35,36 and 40-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,27,29,30,35,36 and 40-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/13/2011 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-15, 27, 29, 30, 35, 36, 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuman et al. (US6950532, hereinafter Schuman) in view of Jones et al. (US20020094082, Jones).

As to claims 1, 43:

Schuman shows a detection method, and a corresponding non-transitory computer readable medium, for video embedded with data in video, the video comprising a plurality of video frames (figure 8), the video having been embedded by:

embedding (e.g., writing effects and security info onto content media) the identification data (e.g., "[d]isruption content may have a multitude of new content") in a first video frame prior to distribution or projection of the video (column 7, lines 42-53) (e.g., "this information [...] may be carried in the digital film

itself" and "the disruption may be pre-authored"), the embedded identification data being visually perceptible upon examination of the first frame (figure 8, column 6, lines 24-34);

selecting a second video frame (e.g., "generated images" means that more than one image is generated, and images can be "image frames"), wherein the first and second video frames are separate frames (column 6, lines 24-34);

and embedding the identification data in the second video frame prior to distribution or projection of the content (column 7, lines 42-52), the embedded identification data being visually perceptible upon examination of the second frame, wherein the identification data is generally imperceptible upon real-time rendering of the video (e.g., "human eye many not detect them") (figure 8, column 6, lines 24-34).

Schuman further shows: disruption content is inserted so that it "becomes visible when played [...] due to temporal expansion" when reconstructed, thus "improving the signal to noise ratio of the identification data" (column 6, lines 33-43).

Schuman fails to specifically show: said method comprising: obtaining video embedded with the identification data; averaging a plurality of the video frames including the first and second frames, wherein the averaging improves the signal to noise ratio of the identification data to video content; and detecting the identification data from a result of said act of averaging.

In the same field of invention, Jones teaches: embedding message data in a digital image sequence. Jones further teaches: said method comprising: obtaining video embedded with the identification data; averaging a plurality of the video frames including the first and second frames, wherein the averaging improves the signal to noise ratio of the identification data to video content; and detecting the identification data from a result of said act of averaging (paragraphs [0010], [0029]-[0034]).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Schuman and Jones at the time that the invention was made, to have combined the teachings of Jones with the method, and a corresponding non-transitory computer readable medium, as taught by Schuman.

One would have been motivated to make such combination because a way to minimizing the visibility of the watermark when the watermarked sequence is displayed in real-time would have been obtained and desired, as expressly taught by Jones (paragraph [0009]).

As to claim 2, Schuman shows:

The method of claim 1, wherein the selecting comprising selecting the second frame so that the repetition of the embedded identification data is imperceptible to the human conscious mind when rendered (e.g., "human eye many not detect them") (column 6, lines 24-34).

As to claim 3, Schuman shows:

The method of claim 1, wherein the identification data is embedded in the same frame location in each of the first and second frames (e.g., if a human is to perceive a message, the message has to be in substantially the same location from one frame to the next) (column 6, lines 58-67).

As to claim 4, Schuman shows:

The method of claim 1, further comprising visually inspecting the first or second frames (e.g., "generated images may be captured [...] creating anomalous images") (figure 8, column 6, lines 32-43).

As to claim 5, Schuman shows:

The method of claim 1, in which said act of detecting utilizes device-aided character recognition of the first or second frames to detect the identification data frames (e.g., humanly perceiving the message) (column 6, lines 58-67).

As to claim 6, Schuman shows:

The method of claim 1 wherein the identification data is embedded in each of the first and second frames in the form of a digital watermark, yet the embedded digital watermarks remain visually perceptible upon examination of the first frame and second frame (column 6, lines 57-63).

As to claim 7, Schuman shows:

The method of claim 6, wherein the digital watermark visibility is due at least in part to digital watermark signal strength or intensity (column 6, lines 28-36 and lines 57-63).

As to claim 8, Schuman shows:

The method of claim 2, wherein the second frame is selected so that the repetition of the embedded identification data is a human observer of the video (e.g., "human eye many not detect them") (column 6, lines 24-34).

As to claim 9, Schuman shows:

The method of claim 1, wherein the identification data comprise at least one of text, numbers, codes, images or graphics (column 6, lines 58-63).

As to claim 10, Schuman shows:

The method of claim 3, wherein the same frame location comprises a window (e.g., image frames) (column 6, lines 24-34).

As to claim 11, Schuman shows:

The method of claim 1, wherein the identification data comprise a plurality of identifiers (column 6, lines 58-63).

As to claim 12, Schuman shows:

The method of claim 11, wherein each of the plurality of identifiers (e.g., text or logos) is embedded to be spatially located in a separate frame location (e.g., "mark the content with messages") with respect to each other (column 6, lines 58-67).

As to claim 13, Schuman shows:

The method of claim 12, wherein the separate frame locations are the same for each of the first frame and second frames (e.g., if a human is to perceive a message, the message has to be in substantially the same location from one frame to the next) (column 6, lines 58-67).

As to claim 14, Schuman shows:

The method of claim 11, wherein the plurality of identifiers comprise at least two identifications (e.g., advertisement) selected from a group comprising: a content identification (e.g., text […] identifying content), a distributor identification (e.g., logo), copy restriction information (e.g., "copy protected"), and an exhibition identification (e.g., "time of the event") (column 6, line 58 to column 7, line 4).

As to claim 15, Schuman shows:

The method of claim 1, wherein the identification data comprises at least one identification selected from a group of identifications comprising: content identification, a distributor identification, copy restriction information, and an exhibition identification (column 6, lines 58-67).

As to claim 23, Schuman shows:

A method of marking content with auxiliary data, the method characterized in that the auxiliary data is embedded prior to distribution or projection of the video (column 7, lines 42-52) to be humanly perceptible if examined in a finite segment or frame of the content (e.g., generated images may contain disruption content), but is embedded so as to be humanly imperceptible when examined as the content is rendered in real-time (e.g., "human eye many not detect them") (figure 8, column 6, lines 24-34).

As to claims 25, 38 Schuman shows:

wherein the content comprises video (figure 8, "content media").

As to claim 27:

Schuman shows an apparatus comprising: memory for buffering media content, wherein the media content comprises a plurality of segments including masking content (e.g., generated images with watermarks inserted on them) (column 3, lines 20-22; (column 3, lines 42-49), in which

at least two of the media segments are provided with the data (e.g., generated images) (column 3, lines 20-22) prior to distribution or projection of the video (column 7, lines 42-52),

wherein the data comprises humanly perceptible data (e.g., "inserting a human perceivable image") (column 3, lines 42-49), and

wherein the data remains perceptible upon individual examination of the at least two media segments but consciously imperceptible as the media content is rendered in real time since the data is below a perceptual threshold due to the masking content (column 6, lines 32-40).

Schuman further shows: disruption content is inserted so that it "becomes visible when played [...] due to temporal expansion" when reconstructed, thus "improving the signal to noise ratio of the identification data" (column 6, lines 33-43).

Schuman fails to specifically show: wherein the media content comprises video, and the plurality of segments comprises video frames, and the masking content comprises video frames without the data; and an electronic processor programmed as a detector for averaging a plurality of the video frames so that the provided data becomes consciously perceptible.

In the same field of invention, Jones teaches: embedding message data in a digital image sequence. Jones further teaches: wherein the media content comprises video, and the plurality of segments comprises video frames, and the masking content comprises video frames without the data; and an electronic processor programmed as a detector for averaging a plurality of the video frames so that the provided data becomes consciously perceptible (paragraphs [0010], [0029]-[0034]).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Schuman and Jones at the time that the invention was made, to have combined the teachings of Jones with the apparatus as taught by Schuman.

One would have been motivated to make such combination because a way to minimizing the visibility of the watermark when the watermarked sequence is displayed in real-time would have been obtained and desired, as expressly taught by Jones (paragraph [0009]).

As to claim 28, Schuman shows:

The method of claim 27 wherein the media content comprises video (e.g., generated images) (column 3, lines 20-22), the plurality of segments comprises video frames (e.g., image frames) (column 6, lines 24-34) and the masking content comprises video frames (e.g., "spaced marks [...] spaced so as to coincide") without the data (column 6, lines 16-24).

As to claim 29, Schuman shows:

The method of claim 28, wherein the data comprises an image of at least one of a hexadecimal number, binary number or decimal number (e.g., date) (column 6, lines 58-67)..

As to claim 30, Schuman shows:

The method of claim 28, wherein the data comprises an image of text (column 6, lines 58-67).

As to claim 33, Schuman shows:

A detector to detect the data provided according to claim 28, wherein the detector averages a plurality of the video frames so that the provided data becomes consciously perceptible (column 3, lines 43-49).

As to claims 35, 39, Schuman shows:

The method of claim 27 wherein the auxiliary data comprises an identifier comprising l's and 0' s, where the l's are embedded in the content through modification to content data (column 7, lines 42-52) (inherent, since a digital film is comprised of zeros and ones).

As to claim 36, Schuman shows:

The method of claim 35 wherein the O's are represented in the content through the absence of modification to content data (column 7, lines 42-52) (inherent, since a digital film is comprised of zeros and ones).

As to claim 37, Schuman shows:

A method of marking content with auxiliary data comprising:

obtaining content;

embedding auxiliary data in the content through modifications of portions of the content, the modifications occurring prior to distribution or projection of the content, the modifications being humanly perceptible if examined in a finite segment or frame of the content, but provided in the content so as to be humanly imperceptible when examined as the content is rendered or projected in real-time; and

distributing or projecting the content (column 7, lines 42-52) (the film is made, the disruption content is pre-authored into the digital film, and then it is distributed).

As to claims 40-42:

Schuman shows a detecting method, corresponding non-transitory computer readable medium, and corresponding memory for storing content, comprising:

obtaining content,

the content including auxiliary data embedded therein,

the embedding being accomplished through modifications of portions of the content,

the modifications occurring prior to obtaining the content (the film is made, the disruption content is pre-authored into the digital film, and then it is distributed),

the modifications being humanly perceptible if examined in a finite segment or frame of the content (e.g., inserting a human perceivable image), but provided in the content so as to be humanly imperceptible when examined as the content is rendered or projected in real-time (e.g., the technique

utilized may create signal that are invisible to the human eye, but are visible to an IRD) (column 3, l. 43-49; col. 5, l. 18-25; column 6, lines 24-34).

Schuman further shows: disruption content is inserted so that it "becomes visible when played [...] due to temporal expansion" when reconstructed, thus "improving the signal to noise ratio of the identification data" (column 6, lines 33-43).

Schuman fails to specifically show: averaging a plurality of content portions; and

detecting the auxiliary data from data representing averaged content portions, the auxiliary data being relatively more detectable from the data representing averaged content portions compared to individual portions including the auxiliary data.

In the same field of invention, Jones teaches: embedding message data in a digital image sequence. Jones further teaches: averaging a plurality of content portions; and detecting the auxiliary data from data representing averaged content portions, the auxiliary data being relatively more detectable from the data representing averaged content portions compared to individual portions including the auxiliary data (paragraphs [0010], [0029]-[0034]).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Schuman and Jones at the time that the invention was made, to have combined the teachings of Jones with the method, corresponding non-transitory computer readable medium, and corresponding memory for storing content, as taught by Schuman.

One would have been motivated to make such combination because a way to minimizing the visibility of the watermark when the watermarked sequence is displayed in real-time would have been obtained and desired, as expressly taught by Jones (paragraph [0009]).

It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one

having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006,1009, 158 USPQ 275, 277 (CCPA 1968)).

Response to Arguments

Applicant's arguments with respect to claims above have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Van Wie et al.	[U.S. 6,449,367]
Shimizu	[U.S. 6,370,272]
Rhoads	[U.S. 5,636,292]
Ashizaki et al.	[U.S. 6,829,430]
Vynne et al.	[U.S. 5,960,081]
Rhoads	[U.S. 5,841,978]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORDANY NUNEZ whose telephone number is (571)272-2753. The examiner can normally be reached on Monday Through Thursday 9am-7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chat Do can be reached on (571)272-3721. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jordany Núñez/
Examiner, Art Unit 2171
11/6/2011